

Notes on the UCRP Pension Options proposed by the PEB Task Force: Four Illustrative Scenarios

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A central concept in the new pension tiers recently proposed by the PEB Task Force is the Social Security Covered Compensation (SSCC). In both Options A and B, the SSCC marks the dividing line between income bands with different contribution rates and different benefit accrual rates. Options A and B propose different numbers but share the same linkage to SSCC.

Proposed contributions under Option A are 3.5% of salary up to SSCC and 9.2% of salary in excess of SSCC. Retirement benefits would accrue at a rate of 1.5% of highest average plan compensation (HAPC) up to SSCC and 3.0% of HAPC in excess of SSCC, but capped overall at 2.5% of HAPC.

The PEB Task Force defines SSCC as 35-year average of the Social Security Wage Base (SSWB) and reports a value of about \$60,000. According to my calculations, the actual SSCC value is \$59,277. [See appendix Table A1 for documentation.] For comparison, the SSWB is currently \$106,800.

Because the current SSCC reflects past discretionary increases in SSWB, as well as relatively high inflation and growth rates, the SSCC is likely to rise faster in the coming decades than the SSWB. Fast growth in SSCC will tend to reduce pension benefits under Options A and B. Table A1 documents that since 2005 the SSCC has grown at an annual rate of 5.1% whereas SSWB has grown at a rate of only 3.3%.

The main conclusion of these notes is that a pension plan linked to SSCC is risky both for UCRP members and for the University. This argues against Options A and B and in favor of a simpler plan like Option C.

There are two conceptual problems with SSCC: First, because SSCC is defined in nominal dollars, unexpected fluctuations in inflation can reduce or increase contributions and pension benefits in odd ways. Under some conditions, pension benefits are low despite a history of high contributions. In other cases pension benefits are high despite a history of low contributions. Second, because the SSWB is politically determined, there is serious political risk.

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This note reflects my own views and not necessarily the views of the USCBA Academic Senate.

These problems are best illustrated in specific scenarios.

All scenarios below are based on a common real earnings profile. For all scenarios:

- Consider a professor who enters employment at age 35, works at UC for 30 years, and retires at age 65, never married.
- Assume initial UCRP earnings are \$90,000.
- Assume salaries grow by 1.5% annually in real, inflation-adjusted terms, both at the national level and for the employee.
- To limit the number of scenarios, the narrative focuses on Option A. Analogous results for Option B are reported at the end.
- For simplicity, assume the plan is implemented in 2011 (labeled “year 1” in the tables). This is to avoid a distracting and nonessential discussion about the transition to 2013.

For a **baseline scenario**, assume 2.5% annual inflation and assume Congress does not change the method for computing SSWB.

For Scenarios I1-I3, assume a range of inflation rates:

- **Scenario I1** assumes 5% annual inflation, double the baseline.
 - **Scenario I2** assumes 0% annual inflation.
 - **Scenario I3** assumes 15 years of 0% inflation, then 15 years of 5% inflation.
- Several inflation scenarios are considered because the time path of inflation turns out to matter for the relationship between retirement contributions and benefit accrual rates.

For **Scenario P**, assume the baseline applies for the first 25 years of the professor’s career. Then, 25 years ahead, assume Congress decides to triple the Social Security wage base (SSWB) relative to its normal trend.

This scenario is intended to illustrate the pitfalls of linking pensions to SSWB and SSCC, which are political variables determined by Congress.

Why should one be concerned about an increase in the Social Security Wage Base? Consider three reasons:

- a. An increase in SSWB would raise revenue for Social Security, which is expected to run out of reserves around 2040. It has considerable political support and it has been much discussed in the debate about social security reform.
 - b. Since 1937, Congress enacted numerous discretionary increases in the Social Security Wage Base. The wage base started out roughly equal to per-capita wage income; it has increased over time to about 270% of per-capita wage income.
 - c. Consider the Medicare precedent. From 1966-1990, Medicare had the same wage base as Social Security. In 1991-93, Congress first increased the Medicare wage base and then abolished it, subjecting all salary to Medicare taxes.
- Thus, a scenario with tripled wage base is modeling a quite modest policy change.

Assessment of Outcomes

A standard measure of pension income is the replacement rate, which is the ratio of pension to “final” salary (at UC: HAPC).

There is no standard simple measure for assessing the reasonableness of contributions. A simple measure is the average contribution rate, the career average of the pension contributions as percentage of salary.

For reference, proposed contributions under Option A are 3.5% of salary up to SSCC and 9.2% of salary in excess of SSCC. Retirement benefits would accrue at a rate of 1.5% of highest average plan compensation (HAPC) up to SSCC and 3.0% of HAPC in excess of SSCC, but capped overall at 2.5% of HAPC.

For the 30-year career assumed in all scenarios, the replacement rate in the current UCRP plan is 75%. Under Option A, the replacement and average contribution rates (=contributions/salary) would be:

Income Ranges	Replacement Rate	Contribution Rate
Salary < SSCC	45%	3.5%
Salary > SSCC	up to 75%	9.2%

Importantly, replacement rates are fixed and guaranteed under the current UCRP and under Option C, but variable under Options A and B.

Findings for Option A:

In summary:

TABLE A Scenario	Replacement Rate	Average Employee Contribution/Salary
Baseline - inflation 2.5%	59.2%	5.34%
I1 - inflation 5%	66.4%	6.02%
I2 - inflation 0%	47.5%	4.36%
I3 - inflation 0% then 5%	62.4%	4.96%
P - jump in SSWB	45.0%	5.16%

The replacement rate and the average contribution rate the Baseline Scenario are for reference. The main insights come from comparing replacement and contribution rates across scenarios. By design, replacement rates are in bounded between 45% and 75%. Detailed calculations are in the Appendix.

Scenario I1 shows that high inflation increases both contributions and benefits. The underlying logic is that high inflation raises nominal salaries and the SSWB, whereas SSCC lags behind. A low SSCC relative to HAPC this implies high pension benefits. A low SSCC relative to salaries implies high contributions.

Scenario I2 illustrates the reverse, that low inflation reduces both contributions and benefits. The replacement rate is clearly inadequate.

Scenario I3 illustrates the bizarre effects of fluctuations in inflation. Low inflation initially implies low contributions (due to high SSCC/SSWB) for many years. A subsequent period of high inflation reduces SSCC/SSWB and raises retirement benefits. As result, average contributions are lower than in the Baseline Scenario #1, but the replacement rate is higher. This scenario would be costly for the University and generous to the retirees.

Scenarios with high-then-low inflation could be examined similarly. Sustained low inflation would imply reduced contributions and benefits. High inflation followed by low inflation would raise contributions and reduces benefits—cheap for the University but unpleasant for retirees.

In summary, inflation is a source of risk for the University as well as for retirees. The current UCRP plan and Option C are preferable in this regard: contribution and replacement rates would be the same in all scenarios. Even in pension plans that make contribution and benefit rates contingent on income, the form of inflation risk found in the scenarios could be avoided by choice of a better measure of average income. For example, U.S. Social Security pays benefits linked to average *indexed* wages—a 35-year average similar to SSCC—but Social Security benefits are designed in a way that largely neutralizes the effects of inflation. Thus, Options A and B are badly designed.

Scenario P shows that a discretionary jump in the Social Security Wage Base would reduce pension benefits significantly. Contributions are almost unchanged because the change in the SSWB is assumed to occur late in the employee's career. This scenario would be a disaster for the employee.

The scenario illustrates that linking pension benefits to a politically determined variable like SSWB is inherently risky. There is no statement in the PEB Task Force report that explains how pensions would be computed if Congress abolished the SSWB or significantly changed the definition.²

One could avoid political risk if covered contributions were defined in terms of economic variables, such as average wages, rather than political variables like SSWB. However, such replacement would reveal that the claimed integration of Options A and B with social security is rather shallow. The reference to SSWB is the

² In an email response to an earlier draft, Robert Anderson indicated that once a plan is adopted by the Regents, a proper definition of SSWB would be enshrined in the UCRP legal plan documents. This would in effect replace the SSCC by an index of average U.S. wages. However, the current PEB Task Force report does not address the issue. Because the consequences of an imprecise definition could be severe, faculty should know about the problem. If a pension plan linked to SSWB and SSCC were proposed to the Regents, it should include a specific definition of SSCC.

entire link to social security. If this variable were purged from legal documents to avoid political risk, one would be left with a two-level pension program spliced together at an ad hoc value (labeled SSCC) that has no intrinsic meaning, either in terms of Social Security or of economic relevance. A simple, uniform plan like Option C would of course avoid these problems.

Findings for Option B:

Under Option B, the replacement and average contribution rates would be:

Income Ranges	Replacement Rate	Contribution Rate
Salary < SSCC	60%	4.0%
Salary > SSCC	up to 75%	8.2%

In the scenarios, replacement and contribution rates are:

TABLE B Scenario	Replacement Rate	Average Employee Contribution/Salary
Baseline - inflation 2.5%	69.5%	5.36%
I1 - inflation 5%	74.2%	5.85%
I2 - inflation 0%	61.7%	4.64%
I3 - inflation 0% then 5%	71.6%	5.08%
P - jump in SSWB	60.0%	5.22%

By design, replacement rates here are bounded between 60% and 75%. One can see that changes in replacement and contribution rates relative to the baseline go in the same direction as in Table A. Hence only summary results are presented. Results would also be qualitatively similar at other income levels, e.g. starting at \$120,000 initial income.

Conclusions:

The common source of volatility in Options A and B is the link to SSCC.

Real employee earnings are identical in all the scenarios. The social security replacement rates are also very similar in all scenarios. Hence the variations in replacement rates shown in Tables A and B translate directly into variations in retiree living standards.

Employer contributions are increasing in the replacement rate and decreasing in employee contributions. Scenarios with high replacement and low contribution rates (like I3) would be costly. Hence Options A and B are also risky for the University.

Table A1: Calculations to compute SSCC

SSCC = Social Security Covered Contribution

calculated as 35-year average of SSWB.

Source for SSWB: Social security website

Finding: SSCC Value for 2010 is \$59,277.

Year	Historical SSWB	Implied SSCC	Growth Rate SSWB	Growth Rate SSCC
1970	7800			
1971	7800			
1972	9000			
1973	10800			
1974	13200			
1975	14100			
1976	15300			
1977	16500			
1978	17700			
1979	22900			
1980	25900			
1981	29700			
1982	32400			
1983	35700			
1984	37800			
1985	39600			
1986	42000			
1987	43800			
1988	45000			
1989	48000			
1990	51300			
1991	53400			
1992	55500			
1993	57600			
1994	60600			
1995	61200			
1996	62700			
1997	65400			
1998	68400			
1999	72600			
2000	76200			
2001	80400			
2002	84900			
2003	87000			
2004	87900	44003		
2005	90000	46351	2.4%	5.3%
2006	94200	48820	4.7%	5.3%
2007	97500	51349	3.5%	5.2%
2008	102000	53954	4.6%	5.1%
2009	106800	56629	4.7%	5.0%
2010	106800	59277	0.0%	4.7%
Average 2005-2010			3.3%	5.1%

Table A2: Baseline

Scenario-specific assumptions:

- Inflation: 2.5%
- SSWB following current law
- All salary numbers are in \$1000

							Contributions (real\$)	Contrib. as	
Year	Salary real	Infl.	Salary nominal	SSWB (nominal)	SSCC (nominal)	SSCC (real)	To SSCC at 3.5%	>SSCC at 9.2%	Percent of Salary
0				106.8	59.3				
1	90.0	2.5%	90.0	106.8	61.9	61.9	2.166	2.586	5.28%
2	91.4	2.5%	93.6	111.1	64.6	63.0	2.206	2.606	5.27%
3	92.7	2.5%	97.4	115.6	67.4	64.1	2.245	2.629	5.26%
4	94.1	2.5%	101.3	120.3	70.2	65.2	2.281	2.663	5.25%
5	95.5	2.5%	105.4	125.1	73.0	66.1	2.315	2.703	5.25%
6	97.0	2.5%	109.7	130.2	75.9	67.1	2.347	2.750	5.26%
7	98.4	2.5%	114.1	135.4	78.8	68.0	2.379	2.801	5.26%
8	99.9	2.5%	118.7	140.9	81.8	68.8	2.409	2.856	5.27%
9	101.4	2.5%	123.5	146.6	84.9	69.7	2.440	2.914	5.28%
10	102.9	2.5%	128.5	152.5	88.2	70.6	2.471	2.973	5.29%
11	104.4	2.5%	133.7	158.7	91.5	71.5	2.502	3.033	5.30%
12	106.0	2.5%	139.1	165.1	95.0	72.4	2.533	3.095	5.31%
13	107.6	2.5%	144.7	171.7	98.6	73.3	2.566	3.156	5.32%
14	109.2	2.5%	150.6	178.7	102.3	74.2	2.598	3.220	5.33%
15	110.9	2.5%	156.6	185.9	106.2	75.1	2.630	3.287	5.34%
16	112.5	2.5%	163.0	193.4	110.2	76.1	2.662	3.354	5.35%
17	114.2	2.5%	169.5	201.2	114.3	77.0	2.695	3.422	5.36%
18	115.9	2.5%	176.4	209.3	118.7	78.0	2.729	3.491	5.37%
19	117.7	2.5%	183.5	217.8	123.1	79.0	2.764	3.561	5.37%
20	119.4	2.5%	190.9	226.6	127.9	80.0	2.800	3.628	5.38%
21	121.2	2.5%	198.6	235.7	132.8	81.1	2.837	3.695	5.39%
22	123.0	2.5%	206.6	245.2	138.0	82.1	2.875	3.763	5.39%
23	124.9	2.5%	215.0	255.1	143.3	83.2	2.913	3.832	5.40%
24	126.8	2.5%	223.7	265.4	148.8	84.3	2.951	3.904	5.41%
25	128.7	2.5%	232.7	276.1	154.5	85.4	2.990	3.977	5.42%
26	130.6	2.5%	242.1	287.3	160.4	86.5	3.029	4.053	5.42%
27	132.5	2.5%	251.9	298.9	166.5	87.6	3.067	4.132	5.43%
28	134.5	2.5%	262.0	311.0	172.9	88.8	3.107	4.209	5.44%
29	136.5	2.5%	272.6	323.5	179.7	90.0	3.150	4.284	5.44%
30	138.6	2.5%	283.6	336.6	186.7	91.2	3.193	4.357	5.45%
							Average	5.34%	
							HAPC	HAPC	SSCC
							real	nomional	real
Final	133.3		272.8			91.2	78.9		
							Replacement rate		
							(Pension/HAPC)		
							59.2%		
							Pension components based on		
							<SSCC	>SSCC	
							41.1	37.8	

Table A3.1 (Scenario I1): Higher inflation

Scenario-specific assumptions:

- Inflation: 5.0%
- SSWB following current law
- All salary numbers are in \$1000

• All salary numbers are in \$1000						Contributions (real\$)		Contrib. as	
Year	Salary real	Infl.	Salary nominal	SSWB (nominal)	SSCC (nominal)	SSCC (real)	To SSCC at 3.5%	>SSCC at 9.2%	Percent of Salary
0				106.8	59.3				
1	90.0	5%	90.0	106.8	61.9	61.9	2.166	2.586	5.28%
2	91.4	5%	95.9	113.8	64.7	61.6	2.156	2.738	5.36%
3	92.7	5%	102.2	121.3	67.6	61.3	2.147	2.887	5.43%
4	94.1	5%	108.9	129.3	70.7	61.0	2.137	3.042	5.50%
5	95.5	5%	116.1	137.8	73.9	60.8	2.127	3.197	5.57%
6	97.0	5%	123.7	146.8	77.2	60.5	2.118	3.354	5.64%
7	98.4	5%	131.9	156.5	80.8	60.3	2.109	3.509	5.71%
8	99.9	5%	140.5	166.8	84.5	60.1	2.102	3.664	5.77%
9	101.4	5%	149.8	177.8	88.5	59.9	2.097	3.816	5.83%
10	102.9	5%	159.6	189.4	92.8	59.8	2.093	3.965	5.89%
11	104.4	5%	170.1	201.9	97.4	59.8	2.092	4.111	5.94%
12	106.0	5%	181.3	215.2	102.3	59.8	2.092	4.253	5.99%
13	107.6	5%	193.2	229.3	107.5	59.9	2.095	4.392	6.03%
14	109.2	5%	206.0	244.4	113.1	60.0	2.100	4.529	6.07%
15	110.9	5%	219.5	260.5	119.1	60.2	2.105	4.665	6.11%
16	112.5	5%	233.9	277.6	125.5	60.4	2.113	4.798	6.14%
17	114.2	5%	249.3	295.8	132.4	60.6	2.123	4.928	6.17%
18	115.9	5%	265.7	315.3	139.7	61.0	2.134	5.056	6.20%
19	117.7	5%	283.2	336.0	147.6	61.3	2.147	5.182	6.23%
20	119.4	5%	301.8	358.1	156.1	61.8	2.162	5.304	6.25%
21	121.2	5%	321.6	381.7	165.2	62.3	2.179	5.424	6.27%
22	123.0	5%	342.8	406.8	175.0	62.8	2.198	5.542	6.29%
23	124.9	5%	365.3	433.5	185.4	63.4	2.218	5.659	6.31%
24	126.8	5%	389.3	462.0	196.5	64.0	2.239	5.775	6.32%
25	128.7	5%	414.9	492.4	208.4	64.6	2.262	5.891	6.34%
26	130.6	5%	442.2	524.8	221.1	65.3	2.285	6.007	6.35%
27	132.5	5%	471.3	559.3	234.7	66.0	2.310	6.123	6.36%
28	134.5	5%	502.3	596.0	249.2	66.7	2.336	6.236	6.37%
29	136.5	5%	535.3	635.2	264.8	67.6	2.365	6.347	6.38%
30	138.6	5%	570.5	677.0	281.6	68.4	2.395	6.457	6.39%
								Average	6.02%
						SSCC	Pension	Replacement rate	
						real	real	(Pension/HAPC)	
Final	HAPC real 130.2		HAPC nomional 536.0			68.4	86.4	66.4%	
						Pension components based on			
						<SSCC	>SSCC		
						30.8	55.6		

Scenario-specific assumptions:

- Contributions (real\$) Contrib. as

Average 4.36%

	HAPC	HAPC	SSCC	Pension	Replacement rate
	real	nomional	real	real	(Pension/HAPC)
Final	136.6	136.6	129.0	64.8	47.5%
				Pension components based on	
				<SSCC	>SSCC
				58.1	6.8

Table A3.3 (Scenario I3): Low inflation followed by high inflation

Scenario-specific assumptions:

- Inflation: 0% then 5%
- SSWB following current law
- All salary numbers are in \$1000

Contributions (real\$) Contrib. as

Year	Salary real	Infl.	Salary nominal	SSWB (nominal)	SSCC (nominal)	SSCC (real)	To SSCC at 3.5%	>SSCC at 9.2%	Percent of Salary
0				106.8	59.3				
1	90.0	0%	90.0	106.8	61.9	61.9	2.166	2.586	5.28%
2	91.4	0%	91.4	108.4	64.5	64.5	2.258	2.469	5.17%
3	92.7	0%	92.7	110.0	67.2	67.2	2.350	2.352	5.07%
4	94.1	0%	94.1	111.7	69.7	69.7	2.439	2.247	4.98%
5	95.5	0%	95.5	113.4	72.2	72.2	2.527	2.147	4.89%
6	97.0	0%	97.0	115.1	74.6	74.6	2.612	2.054	4.81%
7	98.4	0%	98.4	116.8	77.0	77.0	2.696	1.966	4.74%
8	99.9	0%	99.9	118.5	79.4	79.4	2.779	1.884	4.67%
9	101.4	0%	101.4	120.3	81.8	81.8	2.862	1.805	4.60%
10	102.9	0%	102.9	122.1	84.1	84.1	2.944	1.728	4.54%
11	104.4	0%	104.4	123.9	86.5	86.5	3.026	1.655	4.48%
12	106.0	0%	106.0	125.8	88.8	88.8	3.108	1.583	4.43%
13	107.6	0%	107.6	127.7	91.2	91.2	3.191	1.512	4.37%
14	109.2	0%	109.2	129.6	93.5	93.5	3.273	1.446	4.32%
15	110.9	0%	110.9	131.6	95.8	95.8	3.353	1.386	4.27%
16	112.5	5%	112.5	133.5	98.1	98.1	3.433	1.328	4.23%
17	114.2	5%	119.9	142.3	100.6	95.8	3.352	1.696	4.42%
18	115.9	5%	127.8	151.7	103.2	93.7	3.278	2.049	4.60%
19	117.7	5%	136.2	161.6	106.1	91.7	3.209	2.390	4.76%
20	119.4	5%	145.2	172.3	109.3	89.9	3.148	2.714	4.91%
21	121.2	5%	154.7	183.6	112.8	88.4	3.092	3.023	5.05%
22	123.0	5%	164.9	195.7	116.5	86.9	3.042	3.322	5.17%
23	124.9	5%	175.7	208.5	120.5	85.6	2.997	3.611	5.29%
24	126.8	5%	187.3	222.2	124.8	84.4	2.956	3.892	5.40%
25	128.7	5%	199.6	236.8	129.4	83.4	2.918	4.165	5.51%
26	130.6	5%	212.7	252.4	134.3	82.4	2.885	4.430	5.60%
27	132.5	5%	226.7	269.0	139.5	81.6	2.855	4.689	5.69%
28	134.5	5%	241.6	286.7	145.2	80.9	2.831	4.937	5.77%
29	136.5	5%	257.5	305.5	151.5	80.3	2.811	5.173	5.85%
30	138.6	5%	274.4	325.6	158.2	79.9	2.796	5.401	5.91%

Average 4.96%

	HAPC real	HAPC nomional	SSCC real	Pension real	Replacement rate (Pension/HAPC)
Final	130.2	257.8	79.9	81.2	62.4%
Pension components based on					
			<SSCC	>SSCC	
			36.0	45.3	

Table A4 (Scenario P): Political change in the SSWB

Scenario-specific assumptions:

- Inflation: 2.5%
- SSWB following current law for 25 years, then tripled in year 26.
- All salary numbers are in \$1000

Contributions (real\$) Contrib. as

Year	Salary real	Infl.	Salary nominal	SSWB (nominal)	SSCC (nominal)	SSCC (real)	To SSCC at 3.5%	>SSCC at 9.2%	Percent of Salary
0				106.8	59.3				
1	90.0	2.5%	90.0	106.8	61.9	61.9	2.166	2.586	5.28%
2	91.4	2.5%	93.6	111.1	64.6	63.0	2.206	2.606	5.27%
3	92.7	2.5%	97.4	115.6	67.4	64.1	2.245	2.629	5.26%
4	94.1	2.5%	101.3	120.3	70.2	65.2	2.281	2.663	5.25%
5	95.5	2.5%	105.4	125.1	73.0	66.1	2.315	2.703	5.25%
6	97.0	2.5%	109.7	130.2	75.9	67.1	2.347	2.750	5.26%
7	98.4	2.5%	114.1	135.4	78.8	68.0	2.379	2.801	5.26%
8	99.9	2.5%	118.7	140.9	81.8	68.8	2.409	2.856	5.27%
9	101.4	2.5%	123.5	146.6	84.9	69.7	2.440	2.914	5.28%
10	102.9	2.5%	128.5	152.5	88.2	70.6	2.471	2.973	5.29%
11	104.4	2.5%	133.7	158.7	91.5	71.5	2.502	3.033	5.30%
12	106.0	2.5%	139.1	165.1	95.0	72.4	2.533	3.095	5.31%
13	107.6	2.5%	144.7	171.7	98.6	73.3	2.566	3.156	5.32%
14	109.2	2.5%	150.6	178.7	102.3	74.2	2.598	3.220	5.33%
15	110.9	2.5%	156.6	185.9	106.2	75.1	2.630	3.287	5.34%
16	112.5	2.5%	163.0	193.4	110.2	76.1	2.662	3.354	5.35%
17	114.2	2.5%	169.5	201.2	114.3	77.0	2.695	3.422	5.36%
18	115.9	2.5%	176.4	209.3	118.7	78.0	2.729	3.491	5.37%
19	117.7	2.5%	183.5	217.8	123.1	79.0	2.764	3.561	5.37%
20	119.4	2.5%	190.9	226.6	127.9	80.0	2.800	3.628	5.38%
21	121.2	2.5%	198.6	235.7	132.8	81.1	2.837	3.695	5.39%
22	123.0	2.5%	206.6	245.2	138.0	82.1	2.875	3.763	5.39%
23	124.9	2.5%	215.0	255.1	143.3	83.2	2.913	3.832	5.40%
24	126.8	2.5%	223.7	265.4	148.8	84.3	2.951	3.904	5.41%
25	128.7	2.5%	232.7	276.1	154.5	85.4	2.990	3.977	5.42%
26	130.6	2.5%	242.1	861.9	176.8	95.4	3.338	3.238	5.04%
27	132.5	2.5%	251.9	896.7	200.0	105.3	3.684	2.510	4.67%
28	134.5	2.5%	262.0	932.9	224.2	115.1	4.029	1.787	4.32%
29	136.5	2.5%	272.6	970.5	249.4	124.9	4.372	1.069	3.99%
30	138.6	2.5%	283.6	1009.7	275.7	134.7	4.715	0.357	3.66%

Average 5.16%

	HAPC real	HAPC nominal	SSCC real	Pension real	Replacement rate (Pension/HAPC)
Final	133.3	272.8	134.7	60.0	45.0%
Pension components based on					
				<SSCC	>SSCC
				60.0	0.0